

CLAIMS (AMENDED IN THE INTERNATIONAL PHASE)

1. An immunogen comprising a peptide coupled to Protein D from Haemophilus Influenzae, or a fragment thereof as a carrier, wherein the peptide is between 2-50 amino acid residues in length.
2. An immunogen as claimed in claim 1, wherein said peptide is derived from one of an IgE epitope or mimotope, Gonadotrophin hormone releasing hormone or mimotope thereof, a fragment of the amyloid precursor protein or mimotope thereof.
3. An immunogen as claimed in any of claims 1 to 2 wherein the ratio of peptide: protein D carrier is between 1:1 to 20:1.
4. An immunogen as claimed in claim 3 wherein the ratio of peptide:protein D carrier is between 2 to 10.
5. An immunogen as claimed in any of claims 1 to 4, wherein the peptide is A β 43 from the amyloid precursor protein or a fragment thereof, characterised in that A β 43 includes those sequences corresponding to amino acids 1 to 39, 1 to 40, 1 to 41, 1 to 42, 1 to 43.
6. An immunogen as claimed in claim 5 wherein the fragments are peptides selected from the group of peptides incorporating residues A β 1-5, 1-12, 13-28, 17-28 and 33-42.
7. An immunogen as claimed in any one of claims 1 to 4 wherein the peptide comprises the sequence EHWSYGLRPG as tandem repeats or tandem dimers of GnRH.
8. An immunogen as claimed in claim 7 wherein the tandem repeat is E-H-W-S-Y-G-L-R-P-G-S-C-S-E-H-W-S-Y-G-L-R-P-G-NH₂ or wherein the tandem dimers is E-H-W-S-Y-G-L-R-P-G-Q-H-W-S-Y-G-L-R-P-G-S-C-E-H-W-S-Y-G-L-R-P-G-Q-H-W-S-Y-G-L-R-P-G-NH₂, conjugated to protein D through a central cysteine.
9. An immunogen as claimed in any of claims 1 to 4 wherein the peptide is derived from an IgE epitope selected from the group of peptides having the following sequences:
KTKGSGFFVF
EDGQVMDVD
STTQEGEL
SQKHWLSDRT
GHTFEDSTKKCADSNPRGV

10. An immunogen as claimed in any of claims 1 to 4 wherein the mimotopes are selected from the group having the following sequences:
CADSNPRGV
CLEDGQVMDVDLL-NH2
CSTTQEGELA- NH2
CSQKHWLSDRT- NH2
11. An immunogen as claimed in any of claims 1 to 4 wherein the protein D carrier is conjugated to a plurality of discrete peptides.
12. A vaccine comprising an immunogen as claimed in any of claims 1 to 11 and a pharmaceutically acceptable excipient.
13. A vaccine as claimed in claim 12 additionally comprising an adjuvant.
14. A vaccine as claimed in claim 13 wherein the adjuvant is selected from Saponin adjuvants, lipid A or derivative thereof, aluminium salt, oil in water emulsions, liposomes or combinations thereof.
15. A vaccine as claimed in any of claims 12 to 14 for use in medicine.
16. An immunogen as claimed in any of claims 1 to 11 for use in medicine.
17. Use of an immunogen as claimed in any of claims 1 to 11, in the manufacture of a medicament, for the treatment or prophylaxis of an infectious or chronic disease.
18. A method of manufacturing an immunogen as claimed in any of claims 1 to 11 comprising the step of conjugating the peptide of claims 1 to 2 and 5 to 11 to protein D or a fragment thereof.
19. A method of manufacturing a vaccine as claimed in any of claims 12 to 15 comprising formulating an immunogen any of claims 1 to 11 with a pharmaceutically acceptable excipient.
20. A method of treating a patient suffering from or susceptible to a chronic or infectious disease comprising administering a safe and effective amount of vaccine as claimed in any of claims 12 to 15 or immunogen as claimed in any of claims 1 to 11.